Applicant

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07/732,572, filed July 18, 1991, now U.S. Patent No. 5,239,406, and were entered in that application. Approval and entry of these corrected formal drawings is respectfully requested.

In the Claims:

Please cancel claims 1-75.

Please add new claims 76-357 as follows:

76. A reduced ultraviolet transmitting, safety-protected, variable transmission, vehicular glazing assembly suitable for use in a vehicle having an interior and an exterior, said assembly comprising:

at least first and second spaced optically transparent panels, said first panel located closest to the exterior of the vehicle when said assembly is mounted in the vehicle and said second panel located closest to the interior of the vehicle when said assembly is mounted in the vehicle;

said first and said second panels each having a front surface and an opposing rear surface, said rear surface of said first panel facing and spaced from said front surface of said second panel defining a space between said first and second panels;

a variable transmission medium disposed in said space whose visible light transmittance is variable upon the application of an electric field thereto;

ultraviolet radiation reducing means incorporated in said assembly for reducing ultraviolet radiation transmission through said assembly wherein said ultraviolet radiation reducing means comprises at least one of an ultraviolet absorber, an ultraviolet absorbing polymer and an ultraviolet absorbing glass; and

safety means incorporated in said assembly for preventing injury upon impact to said assembly, said safety means comprising at least one of a laminated glass panel, a tempered glass panel and a polymeric layer.

77. The vehicular glazing assembly of claim 76 wherein said glazing assembly comprises a vehicle window:

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78. The vehicular glazing assembly of claim 76 wherein said glazing assembly comprises a vehicle sunroof.

79. The vehicular glazing assembly of claim 76 wherein said glazing assembly comprises a vehicle sun visor.

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80. The vehicular glazing assembly of claim 76 wherein said glazing assembly comprises a vehicle shade band.

81. The vehicular glazing assembly of claim 76 wherein at least one of said first and second panels comprises a tempered, glass panel.

82. The vehicular glazing assembly of claim 81 wherein each of said first and second panels comprises a tempered, glass panel.

83. The vehicular glazing assembly of claim 76 wherein at least said first panel comprises a tempered, glass panel.

84. The vehicular glazing assembly of claim 76 wherein at least one of said first and second panels comprises a tinted glass panel.

85. The vehicular glazing assembly of claim 84 wherein said tinted glass panel has a tint selected from the group consisting of a blue tint, a green tint, a blue/green tint, a bronze tint and a gray tint.

86. The vehicular glazing assembly of claim 76 wherein said safety means comprises a polymeric layer, said polymeric layer being disposed on said rear surface of said second panel for preventing lacerative injuries should said second panel crack or break; said polymeric layer comprising a single-layer polymer film.

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87. The vehicular glazing assembly of claim 86 wherein said single-layer polymer film comprises polyurethane.

88. The vehicular glazing assembly of claim 76 wherein said safety means comprises a polymeric layer, said polymeric layer being disposed on said rear surface of said second panel for preventing lacerative injuries should said second panel crack or break; said polymeric layer comprising a two-layer polymer film.

89. The vehicular glazing assembly of claim 88 wherein one layer of said two-layer polymer film comprises plasticized polyvinylbutyral.

90. The vehicular glazing assembly of claim 89 wherein the other layer of said two-layer polymer film comprises polyester and wherein said polyvinylbutyral layer is disposed between said polyester layer and said rear surface of said second panel.

91. The vehicular glazing assembly of claim 76 wherein said variable transmission medium is disposed between a first and a second transparent conductor.

92. The vehicular glazing assembly of claim 91 wherein at least one of said first and second transparent conductors comprises one of indium tin oxide, doped tin oxide and doped zinc oxide.

93. The vehicular glazing assembly of claim 91 wherein both of said first and second transparent conductors comprise one of indium tin oxide, doped tin oxide and doped zinc oxide.

94. The vehicular glazing assembly of claim 91 wherein both of said first and second transparent conductors comprise indium tin oxide.



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95. The vehicular glazing assembly of claim 76 wherein at least one of said first and second panels comprises a specialized glass transmitting in the visible portion of the electromagnetic spectrum and having reduced transmission in the ultraviolet portion of the electromagnetic spectrum.

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96. The vehicular glazing assembly of claim 76 wherein at least said first panel comprises a specialized glass transmitting in the visible portion of the electromagnetic spectrum and having reduced transmission in the ultraviolet portion of the electromagnetic spectrum.

- 97. The vehicular glazing assembly of claim 96 wherein at least said first panel comprises a tempered, glass panel.
- 98. The vehicular glazing assembly of claim 97 wherein at least said first panel comprises a glass panel bent to a compound curvature.
- 99. The vehicular glazing assembly of claim 76 wherein said assembly incorporates spectrally absorbing means for absorbing more light in those regions of the visible spectrum from about 560 nanometers to about 780 nanometers than is absorbed in those regions of the visible spectrum from about 400 nanometers to about 560 nanometers.
- 100. The vehicular glazing assembly of claim 76 wherein said ultraviolet radiation reducing means comprises an additive for absorbing, blocking and/or screening ultraviolet radiation.
- 101. The vehicular glazing assembly of claim 100 wherein said additive is selected from the group consisting of benzophenones, cinnamic acid derivatives, esters of benzoin acids, salicyclic acid, terephthalic and isophthalic acids with resorcinol and phenols, pentamethyl piperidine derivatives, salicylates, benzotriazoles, cyanoacrylates, benzilidenes, malonates, hindered amines, organo-nickel complexes, nickel chelates and oxalanilides.

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102. The vehicular glazing assembly of claim 100 wherein said additive comprises a benzophenone.

103. The vehicular glazing assembly of claim 100 wherein said additive comprises a benzotriazole.

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104. The vehicular glazing assembly of claim 100 wherein said additive comprises a cyanoacrylate.

105. The vehicular glazing assembly of claim 100 wherein said variable transmission medium includes said additive.

106. The vehicular glazing assembly of claim 100 wherein said safety means comprises a polymeric layer, said polymeric layer being disposed on said rear surface of said second panel for preventing lacerative injuries should said second panel crack or break; said polymeric layer including said additive.

107. The vehicular glazing assembly of claim 76 wherein said assembly includes near-infrared radiation transmission reducing means.

108. The vehicular glazing assembly of claim 107 wherein said safety means comprises a polymeric layer, said polymeric layer being disposed on said rear surface of said second panel for preventing lacerative injuries should said second panel crack or break, said near-infrared radiation transmission reducing means being located on at least one of said first panel, said second panel and said polymeric layer.

109. The vehicular glazing assembly of claim 108 wherein said near-infrared radiation transmission reducing means comprises a near-infrared reflector deposited onto said polymeric layer.

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110. The vehicular glazing assembly of claim 76 wherein said safety means comprises a polymeric layer, said polymeric layer being disposed on said rear surface of said second panel for preventing lacerative injuries should said second panel crack or break; said polymeric layer comprising an anti-fogging polymer layer.

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111. The vehicular glazing assembly of claim 76 wherein at least one of said panels comprises an ultraviolet absorbing glass comprising at least 0.2 weight percent of one of cerium oxide, iron oxide and titanium oxide.

112. The vehicular glazing assembly of claim 76 wherein said variable transmission medium of said assembly has a highest transmission state and wherein said assembly has a color tint in the visible light that is transmitted when said variable transmission medium is in said highest transmission state.

- 113. The vehicular glazing assembly of claim 112 wherein said color tint is selected from the group including a blue tint, a green tint and a blue-green tint.
- 114. The vehicular glazing assembly of claim 76 wherein said tempered glass panel is tempered by one of thermal, contact and chemical tempering.
- 115. The vehicular glazing assembly of claim 76 wherein said assembly includes an infra-red reflector.
- 116. The vehicular glazing assembly of claim 115 wherein said infra-red reflector reflects at least about 30% of the solar energy for Air Mass 2 in the spectral region from 800 nanometers to 2500 nanometers.
- 117. The vehicular glazing assembly of claim 76 wherein at least one of said panels is tinted.

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118. The vehicular glazing assembly of claim 117 wherein said at least one tinted panel has one of a blue tint, a green tint and a blue-green tint.

119. The vehicular glazing assembly of claim 76 wherein said first panel comprises a glass panel.



- 120. The vehicular glazing assembly of claim 119 wherein said glass panel comprises a laminated glass panel.
- 121. The vehicular glazing assembly of claim 120 wherein said laminated glass panel comprises a curved laminated glass panel.
- 122. The vehicular glazing assembly of claim 121 wherein said curved laminated glass panel comprises a color tinted curved laminated glass panel.
- 123. The vehicular glazing assembly of claim 122 wherein said color tinted curved laminated glass panel comprises a color tinted laminating polymeric interlayer.
- 124. The vehicular glazing assembly of claim 123 wherein said color tinted laminating polymeric interlayer includes at least one ultraviolet absorber.
- 125. The vehicular glazing assembly of claim 124 wherein said color tinted laminating polymeric interlayer comprises polyvinyl butyral.
- 126. The vehicular glazing assembly of claim 119 wherein said first panel comprises a tempered glass panel.
- 127. The vehicular glazing assembly of claim 126 wherein said tempered glass panel comprises a curved tempered glass panel.

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128. The vehicular glazing assembly of claim 127 wherein said tempered glass panel comprises a color tinted tempered glass panel.

129. The vehicular glazing assembly of claim 128 wherein said color tinted tempered glass panel comprises an ultraviolet absorbing glass comprising at least 0.2 weight percent of one of cerium oxide, iron oxide and titanium oxide.

130. The vehicular glazing assembly of claim 76 wherein said ultraviolet radiation reducing means are included in said variable transmission medium.

131. The vehicular glazing assembly of claim 130 wherein said ultraviolet radiation reducing means comprises an additive for absorbing, blocking and/or screening ultraviolet radiation.

132. The vehicular glazing assembly of claim 131 wherein said additive is selected from the group consisting of benzophenones, cinnamic acid derivatives, esters of benzoin acids, salicyclic acid, terephthalic and isophthalic acids with resorcinol and phenols, pentamethyl piperidine derivatives, salicylates, benzotriazoles, cyanoacrylates, benzilidenes, malonates, hindered amines, organo-nickel complexes, nickel chelates and oxalanilides.

133. The vehicular glazing assembly of claim 131 wherein said additive comprises a benzophenone.

134. The vehicular glazing assembly of claim 131 wherein said additive comprises a benzotriazole.

135. The vehicular glazing assembly of claim 131 wherein said additive comprises a cyanoacrylate.

136. The vehicular glazing assembly of claim 131 wherein said additive comprises an oxalanilide.



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137. The vehicular glazing assembly of claim 131 wherein said additive comprises an amine.

138. The vehicular glazing assembly of claim 131 wherein said additive comprises a salicylate.

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139. The vehicular glazing assembly of claim 131 wherein said additive comprises a nickel compound.

140. The vehicular glazing assembly of claim 76 wherein said variable transmission medium comprises an electrochromic medium.

141. The vehicular glazing assembly of claim 76 wherein said variable transmission medium comprises a liquid crystal medium.

142. A reduced ultraviolet transmitting, safety-protected, variable transmission, vehicular glazing assembly suitable for use in a vehicle having an interior and an exterior, said assembly comprising:

at least first and second spaced optically transparent panels, said first panel located closest to the exterior of the vehicle when said assembly is mounted in the vehicle and said second panel located closest to the interior of the vehicle when said assembly is mounted in the vehicle;

said first and said second panels each having a front surface and an opposing rear surface, said rear surface of said first panel facing and spaced from said front surface of said second panel defining a space between said first and second panels;

a variable transmission medium disposed in said space whose visible light transmittance is variable upon the application of an electric field thereto;

ultraviolet radiation reducing means incorporated in said assembly for reducing ultraviolet radiation transmission through said assembly wherein said ultraviolet

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radiation reducing means comprises at least one of an ultraviolet absorber, an ultraviolet absorbing polymer and an ultraviolet absorbing glass;

safety means incorporated in said assembly for preventing injury upon impact to said assembly, said safety means comprising at least one of a laminated glass panel, a tempered glass panel and a polymeric layer; and

tinting means incorporated in said assembly for providing a color tint to light transmitted through said assembly.

143. The vehicular glazing assembly of claim 142 wherein said glazing assembly comprises a vehicle window.

144. The vehicular glazing assembly of claim 142 wherein said glazing assembly comprises a vehicle sunroof.

145. The vehicular glazing assembly of claim 142 wherein said glazing assembly comprises a vehicle sun visor.

146. The vehicular glazing assembly of claim 142 wherein said glazing assembly comprises a vehicle shade band.

147. The vehicular glazing assembly of claim 142 wherein at least one of said first and second panels comprises a tempered glass panel.

148. The vehicular glazing assembly of claim 147 wherein each of said first and second panels comprises a tempered glass panel.

149. The vehicular glazing assembly of claim 142 wherein at least said first panel comprises a tempered glass panel.

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150. The vehicular glazing assembly of claim 142 wherein at least one of said first and second panels comprises a tinted glass panel.

151. The vehicular glazing assembly of claim 150 wherein said tinted glass panel has a tint selected from the group consisting of a blue tint, a green tint, a blue/green tint, a bronze tint and a gray tint.

152. The vehicular glazing assembly of claim 142 wherein said safety means comprises a polymeric layer, said polymeric layer being disposed on said rear surface of said second panel for preventing lacerative injuries should said second panel crack or break; said polymeric layer comprising a single-layer polymer film.

153. The vehicular glazing assembly of claim 152 wherein said single-layer polymer film comprises polyurethane.

154. The vehicular glazing assembly of claim 142 wherein said safety means comprises a polymeric layer, said polymeric layer being disposed on said rear surface of said second panel for preventing lacerative injuries should said second panel crack or break; said polymeric layer comprising a two-layer polymer film.

- 155. The vehicular glazing assembly of claim 154 wherein one layer of said two-layer polymer film comprises plasticized polyvinylbutyral.
- 156. The vehicular glazing assembly of claim 155 wherein the other layer of said two-layer polymer film comprises polyester and wherein said polyvinylbutyral layer is disposed between said polyester layer and said rear surface of said second panel.
- 157. The vehicular glazing assembly of claim 142 wherein said variable transmission medium is disposed between a first and a second transparent conductor.



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158. The vehicular glazing assembly of claim 157 wherein at least one of said first and second transparent conductors comprises one of indium tin oxide, doped tin oxide and doped zinc oxide.

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159. The vehicular glazing assembly of claim 157 wherein both of said first and second transparent conductors comprise one of indium tin oxide, doped tin oxide and doped zinc oxide.

- 160. The vehicular glazing assembly of claim 157 wherein both of said first and second transparent conductors comprise indium tin oxide.
- 161. The vehicular glazing assembly of claim 142 wherein at least one of said first and second panels comprises a specialized glass transmitting in the visible portion of the electromagnetic spectrum and having reduced transmission in the ultraviolet portion of the electromagnetic spectrum.
- 162. The vehicular glazing assembly of claim 142 wherein at least said first panel comprises a specialized glass transmitting in the visible portion of the electromagnetic spectrum and having reduced transmission in the ultraviolet portion of the electromagnetic spectrum.
- 163. The vehicular glazing assembly of claim 162 wherein at least said first panel comprises a tempered glass panel.
- 164. The vehicular glazing assembly of claim 163 wherein at least said first panel comprises a glass panel bent to a compound curvature.
- 165. The vehicular glazing assembly of claim 142 wherein said assembly incorporates spectrally absorbing means for absorbing more light in those regions of the visible spectrum from about 560 nanometers to about 780 nanometers than is absorbed in those regions of the visible spectrum from about 400 nanometers to about 560 nanometers.

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166. The vehicular glazing assembly of claim 142 wherein said ultraviolet radiation reducing means comprises an additive for absorbing, blocking and/or screening ultraviolet radiation.

167. The vehicular glazing assembly of claim 166 wherein said additive is selected from the group consisting of benzophenones, cinnamic acid derivatives, esters of benzoin acids, salicyclic acid, terephthalic and isophthalic acids with resorcinol and phenols, pentamethyl piperidine derivatives, salicylates, benzotriazoles, cyanoacrylates, benzilidenes, malonates, hindered amines, organo-nickel complexes, nickel chelates and oxalanilides.

168. The vehicular glazing assembly of claim 166 wherein said additive comprises a benzophenone.

169. The vehicular glazing assembly of claim 166 wherein said additive comprises a benzotriazole.

170. The vehicular glazing assembly of claim 166 wherein said additive comprises a cyanoacrylate.

171. The vehicular glazing assembly of claim 166 wherein said variable transmission medium includes said additive.

172. The vehicular glazing assembly of claim 166 wherein said safety means comprises a polymeric layer, said polymeric layer being disposed on said rear surface of said second panel for preventing lacerative injuries should said second panel crack or break; said polymeric layer including said additive.

173. The vehicular glazing assembly of claim 142 wherein said assembly includes near-infrared radiation transmission reducing means.



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174. The vehicular glazing assembly of claim 173 wherein said safety means comprises a polymeric layer, said polymeric layer being disposed on said rear surface of said second panel for preventing lacerative injuries should said second panel crack or break, said near-infrared radiation transmission reducing means being located on at least one of said first panel, said second panel and said polymeric layer.

175. The vehicular glazing assembly of claim 174 wherein said near-infrared radiation transmission reducing means comprises a near-infrared reflector deposited onto said polymeric layer.

176. The vehicular glazing assembly of claim 142 wherein said safety means comprises a polymeric layer, said polymeric layer being disposed on said rear surface of said second panel for preventing lacerative injuries should said second panel crack or break; said polymeric layer comprising an anti-fogging polymeric layer.

177. The vehicular glazing assembly of claim 142 wherein at least one of said panels comprises an ultraviolet absorbing glass comprising at least 0.2 weight percent of one of cerium oxide, iron oxide and titanium oxide.

178. The vehicular glazing assembly of claim 142 wherein said variable transmission medium of said assembly has a highest transmission state and wherein said assembly has a color tint in the visible light that is transmitted when said variable transmission medium is in said highest transmission state.

- 179. The vehicular glazing assembly of claim 178 wherein said color tint is selected from the group including a blue tint, a green tint and a blue-green tint.
- 180. The vehicular glazing assembly of claim 142 wherein said tempered glass panel is tempered by one of thermal, contact and chemical tempering.



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181. The vehicular glazing assembly of claim 142 wherein said assembly includes an infrared reflector.

182. The vehicular glazing assembly of claim 181 wherein said infra-red reflector reflects at least about 30% of the solar energy for Air Mass 2 in the spectral region from 800 nanometers to 2500 nanometers.

183. The vehicular glazing assembly of claim 142 wherein at least one of said panels is tinted.

184. The vehicular glazing assembly of claim 183 wherein said at least one tinted panel has one of a blue tint, a green tint and a blue-green tint.

185. The vehicular glazing assembly of claim 142 wherein said first panel comprises a glass panel.

186. The vehicular glazing assembly of claim 185 wherein said glass panel comprises a laminated glass panel.

187. The vehicular glazing assembly of claim 186 wherein said laminated glass panel comprises a curved laminated glass panel.

188. The vehicular glazing assembly of claim 187 wherein said curved laminated glass panel comprises a color tinted curved laminated glass panel.

189. The vehicular glazing assembly of claim 188 wherein said color tinted curved laminated glass panel comprises a color tinted laminating polymeric interlayer.

190. The vehicular glazing assembly of claim 189 wherein said color tinted laminating polymeric interlayer includes at least one ultraviolet absorber.



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191. The vehicular glazing assembly of claim 190 wherein said color tinted laminating polymeric interlayer comprises polyvinyl butyral.

192. The vehicular glazing assembly of claim 185 wherein said first panel comprises a tempered glass panel.

193. The vehicular glazing assembly of claim 192 wherein said tempered glass panel comprises a curved tempered glass panel.

194. The vehicular glazing assembly of claim 193 wherein said tempered glass panel comprises a color tinted tempered glass panel.

195. The vehicular glazing assembly of claim 194 wherein said color tinted tempered glass panel comprises an ultraviolet absorbing glass comprising at least 0.2 weight percent of one of cerium oxide, iron oxide and titanium oxide.

196. The vehicular glazing assembly of claim 142 wherein said ultraviolet radiation reducing means are included in said variable transmission medium.

197. The vehicular glazing assembly of claim 196 wherein said ultraviolet radiation reducing means comprises an additive for absorbing, blocking and/or screening ultraviolet radiation.

198. The vehicular glazing assembly of claim 197 wherein said additive is selected from the group consisting of benzophenones, cinnamic acid derivatives, esters of benzoin acids, salicyclic acid, terephthalic and isophthalic acids with resorcinol and phenols, pentamethyl piperidine derivatives, salicylates, benzotriazoles, cyanoacrylates, benzilidenes, malonates, hindered amines, organo-nickel complexes, nickel chelates and oxalanilides.



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199. The vehicular glazing assembly of claim 197 wherein said additive comprises a benzophenone.

200. The vehicular glazing assembly of claim 197 wherein said additive comprises a benzotriazole.

201. The vehicular glazing assembly of claim 197 wherein said additive comprises a cyanoacrylate.

202. The vehicular glazing assembly of claim 197 wherein said additive comprises an oxalanilide.

203. The vehicular glazing assembly of claim 197 wherein said additive comprises an amine.

204. The vehicular glazing assembly of claim 197 wherein said additive comprises a salicylate.

205. The vehicular glazing assembly of claim 197 wherein said additive comprises a nickel compound.

206. The vehicular glazing assembly of claim 142 wherein said variable transmission medium comprises an electrochromic medium.

207. The vehicular glazing assembly of claim 142 wherein said variable transmission medium comprises a liquid crystal medium.

208. The vehicular glazing assembly of claim 142 wherein said tinting means comprises at least one of a color tinted panel, a color tinted polymer and a dye.



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209. The vehicular glazing assembly of claim 142 wherein said tinting means is included in said variable transmission medium.

210. The vehicular glazing assembly of claim 209 wherein said tinting means comprises an organic dye that is not electro-optically active.

211. The vehicular glazing assembly of claim 142 wherein said tinting means is included in at least one of said first and second panels.

212. The vehicular glazing assembly of claim 142 wherein said safety means comprises a laminated glass panel; said tinting means being included in said laminated glass panel.

213. The vehicular glazing assembly of claim 142 wherein said safety means comprises a tempered glass panel; said tinting means being included in said tempered glass panel.

214. The vehicular glazing assembly of claim 142 wherein said safety means comprises a polymeric layer; said tinting means being included in said polymeric layer.

215. A reduced ultraviolet transmitting, safety-protected, variable transmission, vehicular glazing assembly suitable for use in a vehicle having an interior and an exterior, said assembly comprising:

at least first and second spaced optically transparent panels, said first panel located closest to the exterior of the vehicle when said assembly is mounted in the vehicle and said second panel located closest to the interior of the vehicle when said assembly is mounted in the vehicle;

said first and said second panels each having a front surface and an opposing rear surface, said rear surface of said first panel facing and spaced from said front surface of said second panel defining a space between said first and second panels;

a variable transmission medium disposed in said space whose visible light transmittance is variable upon the application of an electric field thereto;



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ultraviolet radiation reducing means incorporated in said assembly for reducing ultraviolet radiation transmission through said assembly wherein said ultraviolet reducing means comprises at least one of an ultraviolet absorber, an ultraviolet absorbing polymer and an ultraviolet absorbing glass;

safety means incorporated in said assembly for preventing injury upon impact to said assembly, said safety means comprising at least one of a laminated glass panel, a tempered glass panel and a polymeric layer; and

wherein said assembly includes at least one curved glass panel.

216. The vehicular glazing assembly of claim 215 wherein said glazing assembly comprises a vehicle window.

217. The vehicular glazing assembly of claim 215 wherein said glazing assembly comprises a vehicle sunroof.

218. The vehicular glazing assembly of claim 215 wherein said glazing assembly comprises a vehicle sun visor.

219. The vehicular glazing assembly of claim 215 wherein said glazing assembly comprises a vehicle shade band.

220. The vehicular glazing assembly of claim 215 wherein at least one of said first and second panels comprises a tempered glass panel.

221. The vehicular glazing assembly of claim 215 wherein each of said first and second panels comprises a tempered glass panel.

222. The vehicular glazing assembly of claim 215 wherein at least one said first and second panels comprises a curved tempered glass panel.



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223. The vehicular glazing assembly of claim 215 wherein each of said first and second panels comprises a curved tempered glass panel.

224. The vehicular glazing assembly of claim 215 wherein at least one of said first and second panels comprises a tinted glass panel.

225. The vehicular glazing assembly of claim 224 wherein said tinted glass panel has a tint selected from the group consisting of a blue tint, a green tint, a blue/green tint, a bronze tint and a gray tint.

226. The vehicular glazing assembly of claim 215 wherein said safety means comprises a polymeric layer, said polymeric layer being disposed on said rear surface of said second panel for preventing lacerative injuries should said second panel crack or break; said polymeric layer comprising a single-layer polymer film.

227. The vehicular glazing assembly of claim 226 wherein said single-layer polymer film comprises polyurethane.

228. The vehicular glazing assembly of claim 215 wherein said safety means comprises a polymeric layer, said polymeric layer being disposed on said rear surface of said second panel for preventing lacerative injuries should said second panel crack or break; said polymeric layer comprising a two-layer polymer film.

- 229. The vehicular glazing assembly of claim 228 wherein one layer of said two-layer polymer film comprises plasticized polyvinylbutyral.
- 230. The vehicular glazing assembly of claim 229 wherein the other layer of said two-layer polymer film comprises polyester and wherein said polyvinylbutyral layer is disposed between said polyester layer and said rear surface of said second panel.



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oxide.

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231. The vehicular glazing assembly of claim 215 wherein said variable transmission medium is disposed between a first and a second transparent conductor.

232. The vehicular glazing assembly of claim 231 wherein at least one of said first and second transparent conductors comprises one of indium tin oxide, doped tin oxide and doped zinc oxide.

233. The vehicular glazing assembly of claim 231 wherein both of said first and second transparent conductors comprise one of indium tin oxide, doped tin oxide and doped zinc

234. The vehicular glazing assembly of claim 231 wherein both of said first and second

transparent conductors comprise indium tin oxide.

235. The vehicular glazing assembly of claim 215 wherein at least one of said first and second panels comprises a specialized glass transmitting in the visible portion of the electromagnetic spectrum and having reduced transmission in the ultraviolet portion of the electromagnetic spectrum.

236. The vehicular glazing assembly of claim 215 wherein at least said first panel comprises a specialized glass transmitting in the visible portion of the electromagnetic spectrum and having reduced transmission in the ultraviolet portion of the electromagnetic spectrum.

237. The vehicular glazing assembly of claim 236 wherein at least said first panel comprises a tempered glass panel.

238. The vehicular glazing assembly of claim 237 wherein at least said first panel comprises a glass panel bent to a compound curvature.



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239. The vehicular glazing assembly of claim 215 wherein said assembly incorporates spectrally absorbing means for absorbing more light in those regions of the visible spectrum from about 560 nanometers to about 780 nanometers than is absorbed in those regions of the visible spectrum from about 400 nanometers to about 560 nanometers.



240. The vehicular glazing assembly of claim 215 wherein said ultraviolet radiation reducing means comprises an additive for absorbing, blocking and/or screening ultraviolet radiation.

241. The vehicular glazing assembly of claim 240 wherein said additive is selected from the group consisting of benzophenones, cinnamic acid derivatives, esters of benzoin acids, salicyclic acid, terephthalic and isophthalic acids with resorcinol and phenols, pentamethyl piperidine derivatives, salicylates, benzotriazoles, cyanoacrylates, benzilidenes, malonates, hindered amines, organo-nickel complexes, nickel chelates and oxalanilides.

- 242. The vehicular glazing assembly of claim 240 wherein said additive comprises a benzophenone.
- 243. The vehicular glazing assembly of claim 240 wherein said additive comprises a benzotriazole.
- 244. The vehicular glazing assembly of claim 240 wherein said additive comprises a cyanoacrylate.
- 245. The vehicular glazing assembly of claim 240 wherein said variable transmission medium includes said additive.
- 246. The vehicular glazing assembly of claim 240 wherein said safety means comprises a polymeric layer, said polymeric layer being disposed on said rear surface of said second panel for preventing lacerative injuries should said second panel crack or break; said polymeric layer including said additive.

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247. The vehicular glazing assembly of claim 215 wherein said assembly includes near-infrared radiation transmission reducing means.

248. The vehicular glazing assembly of claim 247 wherein said safety means comprises a polymeric layer, said polymeric layer being disposed on said rear surface of said second panel for preventing lacerative injuries should said second panel crack or break, said near-infrared radiation transmission reducing means being located on at least one of said first panel, said second panel and said polymeric layer.

249. The vehicular glazing assembly of claim 248 wherein said near-infrared radiation transmission reducing means comprises a near-infrared reflector deposited onto said polymeric layer.

250. The vehicular glazing assembly of claim 215 wherein said safety means comprises a polymeric layer, said polymeric layer being disposed on said rear surface of said second panel for preventing lacerative injuries should said second panel crack or break; said polymeric layer comprising an anti-fogging polymer layer.

- 251. The vehicular glazing assembly of claim 215 wherein at least one of said panels comprises an ultraviolet absorbing glass comprising at least 0.2 weight percent of one of cerium oxide, iron oxide and titanium oxide.
- 252. The vehicular glazing assembly of claim 215 wherein said variable transmission medium of said assembly has a highest transmission state and wherein said assembly has a color tint in the visible light that is transmitted when said variable transmission medium is in said highest transmission state.
- 253. The vehicular glazing assembly of claim 252 wherein said color tint is selected from the group including a blue tint, a green tint and a blue-green tint.



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254. The vehicular glazing assembly of claim 215 wherein said tempered glass panel is tempered by one of thermal, contact and chemical tempering.

255. The vehicular glazing assembly of claim 215 wherein said assembly includes an infrared reflector.

256. The vehicular glazing assembly of claim 255 wherein said infra-red reflector reflects at least about 30% of the solar energy for Air Mass 2 in the spectral region from 800 nanometers to 2500 nanometers.

257. The vehicular glazing assembly of claim 215 wherein at least one of said panels is tinted.

258. The vehicular glazing assembly of claim 257 wherein said at least one tinted panel has one of a blue tint, a green tint and a blue-green tint.

259. The vehicular glazing assembly of claim 215 wherein said first panel comprises a glass panel.

260. The vehicular glazing assembly of claim 259 wherein said glass panel comprises a laminated glass panel.

261. The vehicular glazing assembly of claim 260 wherein said laminated glass panel comprises a curved laminated glass panel.

262. The vehicular glazing assembly of claim 261 wherein said curved laminated glass panel comprises a color tinted curved laminated glass panel.



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263. The vehicular glazing assembly of claim 262 wherein said color tinted curved laminated glass panel comprises a color tinted laminating polymeric interlayer.

264. The vehicular glazing assembly of claim 263 wherein said color tinted laminating polymeric interlayer includes at least one ultraviolet absorber.

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265. The vehicular glazing assembly of claim 264 wherein said color tinted laminating polymeric interlayer comprises polyvinyl butyral.

266. The vehicular glazing assembly of claim 259 wherein said first panel comprises a tempered glass panel.

267. The vehicular glazing assembly of claim 266 wherein said tempered glass panel comprises a curved tempered glass panel.

268. The vehicular glazing assembly of claim 267 wherein said tempered glass panel comprises a color tinted tempered glass panel.

269. The vehicular glazing assembly of claim 268 wherein said color tinted tempered glass panel comprises an ultraviolet absorbing glass comprising at least 0.2 weight percent of one of cerium oxide, iron oxide and titanium oxide.

270. The vehicular glazing assembly of claim 215 wherein said ultraviolet radiation reducing means are included in said variable transmission medium.

271. The vehicular glazing assembly of claim 270 wherein said ultraviolet radiation reducing means comprises an additive for absorbing, blocking and/or screening ultraviolet radiation.

272. The vehicular glazing assembly of claim 271 wherein said additive is selected from the group consisting of benzophenones, cinnamic acid derivatives, esters of benzoin acids,

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salicyclic acid, terephthalic and isophthalic acids with resorcinol and phenols, pentamethyl piperidine derivatives, salicylates, benzotriazoles, cyanoacrylates, benzilidenes, malonates, hindered amines, organo-nickel complexes, nickel chelates and oxalanilides.

273. The vehicular glazing assembly of claim 271 wherein said additive comprises a benzophenone.

274. The vehicular glazing assembly of claim 271 wherein said additive comprises a benzotriazole.

275. The vehicular glazing assembly of claim 271 wherein said additive comprises a cyanoacrylate.

276. The vehicular glazing assembly of claim 271 wherein said additive comprises an oxalanilide.

277. The vehicular glazing assembly of claim 271 wherein said additive comprises an amine.

278. The vehicular glazing assembly of claim 271 wherein said additive comprises a salicylate.

279. The vehicular glazing assembly of claim 271 wherein said additive comprises a nickel compound.

280. The vehicular glazing assembly of claim 215 wherein said variable transmission medium comprises an electrochromic medium.

281. The vehicular glazing assembly of claim 215 wherein said variable transmission medium comprises a liquid crystal medium.

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282. The vehicular glazing assembly of claim 215 wherein said at least one curved glass panel comprises a curved tempered glass panel.

283. The vehicular glazing assembly of claim 215 wherein said at least one curved glass panel comprises a curved laminated glass panel.

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284. The vehicular glazing assembly of claim 215 wherein said safety means comprises a polymeric layer, said at least one curved glass panel being contacted by said polymeric layer.

285. A reduced ultraviolet transmitting, safety-protected, variable transmission, window assembly having an exterior surface subject to direct exposure to a source of solar insolation and an interior surface spaced from said exterior surface, said interior surface being located further from said source of solar insolation than said exterior surface, said assembly comprising:

at least first and second spaced optically transparent panels, said first panel located closest to said exterior surface of said window assembly when said assembly is mounted for exposure to a source of solar insolation and said second panel located closest to said interior surface of said window assembly when said assembly is mounted for exposure to a source of solar insolation:

said first and said second panels each having a front surface and an opposing rear surface, said rear surface of said first panel facing and spaced from said front surface of said second panel defining a space between said first and second panels;

a variable transmission medium disposed in said space whose visible light transmittance is variable upon the application of an electric field thereto;

ultraviolet radiation reducing means incorporated in said assembly for reducing ultraviolet radiation transmission through said assembly wherein said ultraviolet reducing means comprises at least one of an ultraviolet absorber, an ultraviolet absorbing polymer and an ultraviolet absorbing glass;

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safety means incorporated in said assembly for preventing injury upon impact to said assembly, said safety means comprising at least one of a laminated glass panel, a tempered glass panel and a polymeric layer; and

wherein said variable transmission medium of said assembly has a highest transmission state and wherein said assembly has a color tint in the visible light that is transmitted when said variable transmission medium is in said highest transmission state.

286. The window assembly of claim 285 wherein said glazing assembly comprises a vehicular window assembly.

287. The window assembly of claim 285 wherein said glazing assembly comprises a vehicular sunroof assembly.

288. The window assembly of claim 285 wherein said glazing assembly comprises a vehicular sun visor.

289. The window assembly of claim 285 wherein said glazing assembly comprises a vehicular shade band.

290. The window assembly of claim 285 wherein said second panel includes a mirror reflector coating on a surface thereof.

291. The window assembly of claim 290 wherein said glazing assembly is included in a mirror assembly for a vehicle.

292. The window assembly of claim 291 wherein said mirror assembly for a vehicle comprises an exterior mirror assembly.

293. The window assembly of claim 285 wherein at least one of said first and second panels comprises a tempered glass panel.

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294. The window assembly of claim 285 wherein each of said first and second panels comprises a tempered, glass panel.

295. The window assembly of claim 285 wherein at least one of said first and second panels comprises a curved tempered glass panel.

296. The window assembly of claim 285 wherein each of said first and second panels comprises a curved tempered glass panel.

297. The window assembly of claim 285 wherein at least one of said first and second panels comprises a tinted glass panel.

298. The window assembly of claim 297 wherein said tinted glass panel has a tint selected from the group consisting of a blue tint, a green tint, a blue/green tint, a bronze tint and a gray tint.

299. The window assembly of claim 285 wherein said safety means comprises a polymeric layer, said polymeric layer being disposed on said rear surface of said second panel for preventing lacerative injuries should said second panel crack or break; said polymeric layer comprising a single-layer polymer film.

300. The window assembly of claim 299 wherein said single-layer polymer film comprises polyurethane.

301. The window assembly of claim 285 wherein said safety means comprises a polymeric layer, said polymeric layer being disposed on said rear surface of said second panel for preventing lacerative injuries should said second panel crack or break; said polymeric layer comprising a two-layer polymer film.

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302. The window assembly of claim 301 wherein one layer of said two-layer polymer film comprises plasticized polyvinylbutyral.

303. The window assembly of claim 302 wherein the other layer of said two-layer polymer film comprises polyester and wherein said polyvinylbutyral layer is disposed between said polyester layer and said rear surface of said second panel.

304. The window assembly of claim 285 wherein said variable transmission medium is disposed between a first and a second transparent conductor.

305. The window assembly of claim 304 wherein at least one of said first and second transparent conductors comprises one of indium tin oxide, doped tin oxide and doped zinc oxide.

306. The window assembly of claim 304 wherein both of said first and second transparent conductors comprise one of indium tin oxide, doped tin oxide and doped zinc oxide.

307. The window assembly of claim 304 wherein both of said first and second transparent conductors comprise indium tin oxide.

308. The window assembly of claim 285 wherein at least one of said first and second panels comprises a specialized glass transmitting in the visible portion of the electromagnetic spectrum and having reduced transmission in the ultraviolet portion of the electromagnetic spectrum.

309. The window assembly of claim 285 wherein at least said first panel comprises a specialized glass transmitting in the visible portion of the electromagnetic spectrum and having reduced transmission in the ultraviolet portion of the electromagnetic spectrum.

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310. The window assembly of claim 309 wherein at least said first panel comprises a tempered glass panel.

311. The window assembly of claim 310 wherein at least said first panel comprises a glass panel bent to a compound curvature.

312. The window assembly of claim 285 wherein said assembly incorporates spectrally absorbing means for absorbing more light in those regions of the visible spectrum from about 560 nanometers to about 780 nanometers than is absorbed in those regions of the visible spectrum from about 400 nanometers to about 560 nanometers.

313. The window assembly of claim 285 wherein said ultraviolet radiation reducing means comprises an additive for absorbing, blocking and/or screening ultraviolet radiation.

314. The window assembly of claim 313 wherein said additive is selected from the group consisting of benzophenones, cinnamic acid derivatives, esters of benzoin acids, salicyclic acid, terephthalic and isophthalic acids with resorcinol and phenols, pentamethyl piperidine derivatives, salicylates, benzotriazoles, cyanoacrylates, benzilidenes, malonates, hindered amines, organo-nickel complexes, nickel chelates and oxalanilides.

- 315. The window assembly of claim 313 wherein said additive comprises a benzophenone.
- 316. The window assembly of claim 313 wherein said additive comprises a benzotriazole.
- 317. The window assembly of claim 313 wherein said additive comprises a cyanoacrylate.
- 318. The window assembly of claim 313 wherein said variable transmission medium includes said additive.



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319. The window assembly of claim 313 wherein said safety means comprises a polymeric layer, said polymeric layer being disposed on said rear surface of said second panel for preventing lacerative injuries should said second panel crack or break; said polymeric layer including said additive.

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320. The window assembly of claim 285 wherein said assembly includes near-infrared radiation transmission reducing means.

321. The window assembly of claim 320 wherein said safety means comprises a polymeric layer, said polymeric layer being disposed on said rear surface of said second panel for preventing lacerative injuries should said second panel crack or break, said near-infrared radiation transmission reducing means being located on at least one of said first panel, said second panel and said polymeric layer.

- 322. The window assembly of claim 321 wherein said near-infrared radiation transmission reducing means comprises a near-infrared reflector deposited onto said polymeric layer.
- 323. The window assembly of claim 285 wherein said safety means comprises a polymeric layer, said polymeric layer being disposed on said rear surface of said second panel for preventing lacerative injuries should said second panel crack or break; said polymeric layer comprising an anti-fogging polymer layer.
- 324. The window assembly of claim 285 wherein at least one of said panels comprises an ultraviolet absorbing glass comprising at least 0.2 weight percent of one of cerium oxide, iron oxide and titanium oxide.
- 325. The window assembly of claim 285 wherein said assembly includes at least one curved glass panel.

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326. The window assembly of claim 285 wherein said assembly includes a color tint selected from the group including a blue tint, a green tint and a blue-green tint.

327. The window assembly of claim 285 wherein said tempered glass panel is tempered by one of thermal, contact and chemical tempering.

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328. The window assembly of claim 285 wherein said assembly includes an infra-red reflector.

329. The window assembly of claim 328 wherein said infra-red reflector reflects at least about 30% of the solar energy for Air Mass 2 in the spectral region from 800 nanometers to 2500 nanometers.

330. The window assembly of claim 285 wherein at least one of said panels is tinted.

331. The window assembly of claim 330 wherein said at least one tinted panel has one of a blue tint, a green tint and a blue-green tint.

332. The window assembly of claim 285 wherein said first panel comprises a glass panel.

333. The window assembly of claim 332 wherein said glass panel comprises a laminated glass panel.

334. The window assembly of claim 333 wherein said laminated glass panel comprises a curved laminated glass panel.

335. The window assembly of claim 334 wherein said curved laminated glass panel comprises a color tinted curved laminated glass panel.

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336. The window assembly of claim 335 wherein said color tinted curved laminated glass panel comprises a color tinted laminating polymeric interlayer.

337. The window assembly of claim 336 wherein said color tinted laminating polymeric interlayer includes at least one ultraviolet absorber.

338. The window assembly of claim 337 wherein said color tinted laminating polymeric interlayer comprises polyvinyl butyral.

339. The window assembly of claim 332 wherein said first panel comprises a tempered glass panel.

340. The window assembly of claim 339 wherein said tempered glass panel comprises a curved tempered glass panel.

341. The window assembly of claim 340 wherein said tempered glass panel comprises a color tinted tempered glass panel.

342. The window assembly of claim 341 wherein said color tinted tempered glass panel comprises an ultraviolet absorbing glass comprising at least 0.2 weight percent of one of cerium oxide, iron oxide and titanium oxide.

343. The window assembly of claim 285 wherein said ultraviolet radiation reducing means are included in said variable transmission medium.

344. The window assembly of claim 343 wherein said ultraviolet radiation reducing means comprises an additive for absorbing, blocking and/or screening ultraviolet radiation.

345. The window assembly of claim 344 wherein said additive is selected from the group consisting of benzophenones, cinnamic acid derivatives, esters of benzoin acids, salicyclic

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acid, terephthalic and isophthalic acids with resorcinol and phenols, pentamethyl piperidine derivatives, salicylates, benzotriazoles, cyanoacrylates, benzilidenes, malonates, hindered amines, organo-nickel complexes, nickel chelates and oxalanilides.

346. The window assembly of claim 344 wherein said additive comprises a benzophenone.

347. The window assembly of claim 344 wherein said additive comprises a benzotriazole.

348. The window assembly of claim 344 wherein said additive comprises a cyanoacrylate.

349. The window assembly of claim 344 wherein said additive comprises an oxalanilide.

350. The window assembly of claim 344 wherein said additive comprises an amine.

351. The window assembly of claim 344 wherein said additive comprises a salicylate.

352. The window assembly of claim 344 wherein said additive comprises a nickel compound.

353. The window assembly of claim 285 wherein said variable transmission medium comprises an electrochromic medium.

354. The window assembly of claim 285 wherein said variable transmission medium comprises a liquid crystal medium.

355. The window assembly of claim 285 wherein said window assembly comprises a curved tempered glass panel.

356. The window assembly of claim 285 wherein said window assembly comprises a curved laminated glass panel.

